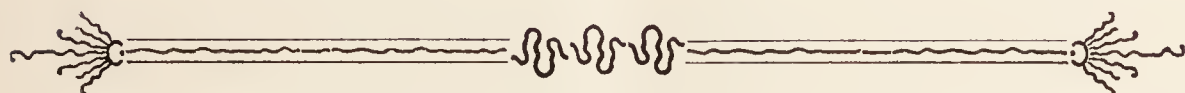


URBAN DISTRICT COUNCIL

OF

✧ OSWALDTWISTLE. ✧



# Annual Report

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OF THE

MEDICAL OFFICER,

ALSO

REPORT upon SANITATION

BY THE

Surveyor & Sanitary Inspector,

FOR THE

DISTRICT OF OSWALDTWISTLE,

Year ended 31st December, 1904.



OSWALDTWISTLE:

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*To the Chairman and Members of the Urban District  
Council of Oswaldtwistle.*

GENTLEMEN,

I have the honour to submit to you my First Annual Report on the health and sanitary condition of Oswaldtwistle, for the year ending December 31st, 1904.



**Area.** The Area of Oswaldtwistle comprises 4883 statute acres.

**Population.** The estimated population is 14,600. The census of 1901, gave a return of 14,192.

Taking the whole of the Township, the above figures give a density of population of 3 per acre. The Urban portion of the district has a far greater density of population, being about 42 per acre.

<b>Altitudes.</b> At the boundary with Church,				Ft. above sea level.
at the bottom of Union Road .....				the altitude is 423
At Moscow Mill Street	...	...	...	„ 450
Opposite the Town Hall	...	...	...	„ 483
At the boundary with Blackburn, on Blackburn Road	...	...	...	„ 490
At Mother Red Cap Inn, on Blackburn Road...				„ 532
In New Lane, which is the highest part of the built up portion of the district	...			„ 581
At the centre of Stanhill Village	...	...		„ 598
At the Shoulder of Mutton Hotel, Cross Edge				„ 874
At the National School, which is the highest portion of the Belthorn Village	...			„ 1020

**Occupations.** The inhabitants are employed at various trades, viz: Chemical Works, Cotton Mills, Coal Mines, Paper Mills, Calico Printing, and Milk Farms.

**Water Supply.** The gathering ground to the Reservoirs supplying the district is from the moorland. The land has a gradual rise from 637 feet to 1000 feet above the sea level. There has been a constant supply of water from the Reservoirs to the district.

The water supplied to the residents in the Village of Belthorn is excellent. The watershed for this supply is moorland, 1,100 feet above the sea level. The water is filtered by passing through filter beds containing sand 3 feet deep, and 6 inches of Buxton and Clitheroe limestone chippings, and runs through brick drains to the storage tanks.

**Births.** During the year there were 320 births registered, of these 157 were males and 163 females, equal to a birth rate of 21.91 per 1000.

Table of Birth Rates for 10 years.

Year	Rate per 1000	Year	Rate per 1000
1895 .....	30.8	1900 .....	29.17
1896 .....	32.7	1901 .....	27.19
1897 .....	30.57	1902 .....	29.44
1898 .....	33.45	1903 .....	25.48
1899 .....	28.00	1904 .....	21.91

The average annual rate for the last 10 years is 28.87. The average rate for the County of Lancaster for 1903 was 26.77, as compared with 25.48 per 1000 for Oswaldtwistle, in that year.

**Deaths.** During the year 274 deaths were registered, as compared with 222 in 1903,—an increase of 52, and giving an annual death rate of 18.76 per 1000. The rate for 1903 was 15.2 per 1000.

Of the deaths, 15 occurred in the Blackburn Workhouse, 4 in the Blackburn Infirmary, 1 in Accrington Cottage Hospital, and 254 were registered in Oswaldtwistle.



### Table of Deaths during each month.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
36	29	41	27	23	17	19	9	15	14	19	25

### Table of Deaths from all causes at subjoined ages.

Under 1 year	1 to 5	5 to 15	15 to 25	25 to 65	65 and over
61	51	15	10	88	49

### Comparative Birth and Death Rate Tables.

#### BIRTH RATE PER 1000

	1876-80	1881-85	1886-90	1891-95	1896-1900	1901-3
England & Wales	35.30	33.50	31.40	30.46	29.39	28.5
Oswaldtwistle ...	—	36.52	34.04	29.73	28.29	26.51

#### DEATH RATE PER 1000

	1876-80	1881-85	1886-90	1891-95	1896-1900	1901-3
England & Wales	20.8	19.4	18.8	18.7	17.74	16.2
Oswaldtwistle ...	—	20.96	21.44	17.21	17.22	14.9

### Table of Death Rates for the last 10 years.

Year	Rate per 1000	Year	Rate per 1000
1895	17.21	1900	19.74
1896	15.21	1901	17.52
1897	18.3	1902	13.2
1898	14.3	1903	15.2
1899	18.51	1904	18.76

### Table shewing Births, Deaths, & natural increase.

Year	No. of Births	Rate per 1000	No. of Deaths	Rate per 1000	Natural Increase
1895	419	29.33	241	17.2	178
1896	448	31.54	216	15.21	232
1897	422	28.13	275	18.33	147
1898	465	30.00	222	14.32	243
1899	392	25.29	287	18.51	105
1900	411	26.51	306	19.74	105
1901	386	26.62	254	17.52	132
1902	398	27.44	192	13.2	206
1903	392	25.48	222	15.2	170
1904	320	21.91	274	18.76	46

### Causes of, and Ages at, Death during 1904.

Causes of Death	All ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 & over
Measles .....	27	9	18	0	0	0	0
Scarlet Fever .....	0	0	0	0	0	0	0
Croup and Diphtheria..	0	0	0	0	0	0	0
Whooping Cough .....	2	1	1	0	0	0	0
Enteric Fever .....	7	0	0	4	1	2	0
Influenza .....	2	0	0	1	0	1	0
Diarrhœa .....	3	3	0	0	0	0	0
Enteritis .....	1	1	0	0	0	0	0
Phthisis .....	14	1	0	1	3	8	1
Other Tubercular diseases .....	13	3	9	1	0	0	0
Bronchitis .....	38	6	10	0	0	8	14
Pneumonia .....	21	7	3	1	0	9	1
Other diseases of Respiratory organs	3	1	0	0	0	1	1
Alcoholism (Cirrhosis of Liver).....	2	0	0	0	0	2	0
Cancer.....	11	0	0	0	0	11	0
Venereal diseases .....	1	0	0	0	0	1	0
Premature birth.....	7	7	0	0	0	0	0
Diseases and accidents of parturition.....	5	0	0	0	3	2	0
Heart diseases .....	13	1	0	2	0	7	3
Accidents .....	8	1	1	4	0	1	1
Suicides .....	4	0	0	0	0	4	0
All other causes .....	92	20	9	1	2	31	28
All causes .....	274	61	51	15	10	88	49

TABLE showing causes of Deaths during the last Ten Years.

Year	Pleurisy, Pneumonia, Bronchitis	Heart Disease	Phthisis	Injuries	Scarlet Fever	Euteric Fever	Whooping Cough	Measles	Diphtheria & Membranous Croup	Puerperal Fever	Erysipelas	Diarrhoea	Other causes	Total
1895	.....	49	13	10	5	4	3	10	8	0	0	20	118	241
1896	.....	47	13	13	6	1	0	0	1	1	0	12	122	216
1897	.....	63	17	11	7	6	14	11	0	1	2	15	122	275
1898	.....	53	18	7	8	7	0	0	2	0	0	8	119	222
1899	.....	63	21	11	5	3	3	1	1	1	0	8	167	287
1900	.....	87	9	15	7	1	0	20	5	1	1	5	150	306
1901	.....	52	10	9	5	3	4	1	12	0	0	7	147	254
1902	.....	35	12	11	4	1	3	1	5	0	0	1	118	192
1903	.....	40	18	11	5	2	0	1	0	0	0	3	139	222
1904	.....	59	13	14	8	7	2	27	0	0	0	3	141	274

**Infantile Death Rate.** 61 deaths were registered under 1 year of age, representing for this period 191 deaths for 1000 births. In the previous year (1903) the rate was 132 deaths for 1000 births. Only twice during the last 10 years has the Infantile death rate been greater than it has been this year.

**Table of Infantile Death Rate.**

Year	No. of Deaths	Deaths to 1000 Births	Year	No. of Deaths	Deaths to 1000 Births
1895	67	159	1900	73	177
1896	61	136	1901	81	210
1897	92	163	1902	55	138
1898	73	156	1903	52	132
1899	80	204	1904	61	191

**Bronchitis** caused 38 deaths. Of these 6 were under 1 year, 10 between 1 and 5 years, 8 between 25 and 65 years, and 14 over 65 years of age.

**Pneumonia** caused 21 deaths. Of these 7 were under 1 year, 3 between 1 and 5 years, 1 between 5 and 15 years, 9 between 25 and 65 years, and 1 over 65 years of age.

**Pleurisy.** There were no deaths from this disease.

**Table of the above causes of Death for 10 years.**

Year	Deaths	Year	Deaths
1895	49	1900	87
1896	47	1901	52
1897	63	1902	31
1898	53	1903	40
1899	63	1904	59

**Table of Deaths from Bronchitis and Pneumonia in each month.**

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1904 ...	10	4	10	7	3	3	4	2	2	2	3	9
1903 ...	4	3	6	7	2	2	2	1	1	5	2	5



## Zymotic Diseases.

	Cases Notified	Deaths
Smallpox.....	0	0
Measles .....	0*	27
Scarlet Fever .....	16	0
Diphtheria .....	3	0
Whooping Cough .....	0*	2
Enteric Fever.....	14	7
Puerperal Fever.....	1	0
Diarrhœa.....	0*	3
Erysipelas .....	8	0

\* Not notifiable.

The Zymotic death rate is 2.67 per 1000. This is the highest there has been during the last ten years and is owing chiefly to the widespread epidemic of Measles which occurred in the early part of the year, which alone caused 27 deaths.

Table of Zymotic Death Rates for 10 years.

Year	Deaths per 1000	Year	Deaths per 1000
1895.....	1.61	1900.....	2.45
1896.....	.21	1901.....	1.65
1897.....	2.53	1902.....	.75
1898.....	1.03	1903.....	.41
1899.....	.77	1904.....	2.67

**Scarlet Fever** was reported every month except January. No deaths resulted from this disease.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
0	1	1	2	1	1	1	1	1	4	2	1

Table for Seven years.

Year	Cases Notified	Deaths	Year	Cases Notified	Deaths
1898	13	0	1902	45	1
1899	94	3	1903	35	3
1900	—	5	1904	16	0
1901	71	4			

**Diphtheria.** 3 cases of Diphtheria were reported during the year, but no deaths resulted from the same.

Table for Seven years.

Year		Cases Notified		Deaths	Year		Cases Notified		Deaths
1898	...	4	...	1	1902	...	14	...	5
1899	...	—	...	1	1903	...	6	...	0
1900	...	—	...	5	1904	...	3	...	0
1901	...	30	...	12					

**Enteric or Typhoid Fever.** During the year there were 14 cases of Typhoid Fever reported, and 7 deaths. The deaths were very heavy as compared with the number of cases reported, being 50 per cent. The number of deaths compares very unfavourably with the previous 5 years, the average cases reported per annum being 13, and the average number of deaths 3.

The cases reported during the past year were distributed over the whole district, and in each case the houses and premises were carefully examined.

Table for Seven years.

Year	Cases Notified		Deaths		Year	Cases Notified		Deaths	
1898	...	27	...	7	1902	...	9	...	1
1899	...	16	...	3	1903	...	7	...	2
1900	...	—	...	1	1904	...	14	...	7
1901	...	9	...	3					

**Smallpox.** No cases of this disease occurred.

**Measles.** During the early part of the year, a severe epidemic of Measles broke out in the Township and caused a heavy mortality amongst children. 27 deaths in all occurred. 9 in children under 1 year of age, and 18 in children between the ages of 1 and 5 years. The deaths were largely due to lung complications owing to the severe weather experienced during the epidemic.

The infant departments of Holy Trinity and St. Paul's Schools, and the infant and mixed departments of Moscow Mill Street School were closed for a period of 14 days in the month of February, owing to the large number of cases occurring in these schools. In April, St. Michael's School, Belthorn, was closed for one week previous to the Whitsuntide holidays for the same reason. It was reopened on Monday, May 30th, and it was found that 15 children were absent from Measles and 3 present from infected houses. Through an oversight the school had not been colour washed previous to reopening and it was therefore closed for another week.

Table of Deaths from Measles for Seven Years.

Year	Deaths	Year	Deaths
1898.....	0	1902.....	1
1899.....	1	1903.....	1
1900.....	20	1904.....	27
1901.....	1		

**Whooping Cough.** Two deaths occurred from this disease, one was a child 12 months old, and the other was a child between 1 and 5 years of age.

Table of Deaths from Whooping Cough for Seven Years.

Year	Deaths	Year	Deaths
1898.....	0	1902.....	3
1899.....	3	1903.....	0
1900.....	0	1904.....	2
1901.....	4		

**Diarrhœa.** Three deaths occurred from Diarrhœa, all being children under one year of age.

Table of Deaths from Diarrhœa for Seven Years.

Year	Deaths	Year	Deaths
1898.....	8	1902.....	1
1899.....	8	1903.....	3
1900.....	2	1904.....	3
1901.....	7		

**Phthisis and other Tubercular Diseases.** 14 deaths were registered as due to Phthisis and 13 to Tubercular disease of organs other than the lungs.

Table of Deaths from Phthisis for Ten Years.

Year	Deaths	Year	Deaths
1895.....	10	1900.....	15
1896.....	13	1901.....	9
1897.....	11	1902.....	11
1898.....	7	1903.....	11
1899.....	11	1904.....	14

## Deaths from Tubercular Diseases of Organs other than the Lungs.

Year	Deaths	Year	Deaths
1901.....	19	1903.....	6
1902.....	14	1904.....	13

From the above figures it will be seen that the mortality from Tuberculosis is still excessive. Experience has proved that the most effectual preventive of “Consumption” is fresh air, *i.e.*, living and working in a pure atmosphere. Statistics show that those who lead an outdoor life, especially agriculturalists and fishermen, suffer least from Tubercular diseases. For this reason I advocate most thorough ventilation of all workshops and factories, and careful attention to the air of bedrooms.

**House Accommodation.** The question of the accommodation of the working-classes has received the attention of your Council during the past year; and the sanitary condition of the dwellings in certain parts of the district have been under consideration with a view to taking action, particularly in the case of those houses that are back to back.

Seven houses that were unfit for human habitation have been dealt with, viz :—

Three houses at Cross Edge.

One house at Stanhill Village.

Two houses in Aspen Lane, and

One house at Mill Hill.

All these houses have been closed.

**Factories & Workshops.** There are 55 of these workshops which have been inspected on various occasions, and complete particulars of the matters required to be complied with under the Factory & Workshops Act, have been taken and entered fully in the Workshops Record Book.

The whitewashing has been attended to where required, and notices have been given in two cases to improve the sanitary conveniences.



### List of Workshops Inspected.

Bakers and Confectioners	...	...	7
Dress Makers and Milliners	...	...	8
Tailors	...	...	6
Boot Makers and Cloggers	...	...	13
Harness Maker	...	...	1
Joiners	...	...	3
Cabinet Makers	...	...	3
Plumbers	...	...	2
Painter	...	...	1
Smiths	...	...	2
Wheelwrights	...	...	2
Jeweller	...	...	1
Tinsmiths	...	...	3
Chemical Manufacturer	...	...	1
Paper Tube Maker	...	...	1
Motor Car Builder	...	...	1
Tallow Refiner	...	...	1
Total			56

**Dairies, Cowsheds, and Milk Shops.** Considerable improvements have been made at various farms during the year, the most important of which were done at Ingham's farm, Duckworth Hall. The old shippons were pulled down and new ones erected. A new manure tank was built and fresh drains were also laid.

At Ward's farm, Duckworth Hall, new farm buildings were constructed.

At Moor Gate farm, the old farm house that had been condemned by the Council as unfit for human habitation has been pulled down, and a new dwelling with isolated dairy is in course of erection.

**Underground Bakehouses.** There are two underground bakehouses that were in use at the passing of the Factory and Workshops Act.

A certificate was given for one of these bakehouses as it met with the approval of the Council.

A certificate was not given for the other one as it did not comply with the requirements of the Act, and notice was given to the owner and occupier on the 17th August, 1904, that in default of complying

with the provisions of the Act, legal proceedings would be taken to close the bakehouse. The death of Dr. Haworth, the Medical Officer of Health, delayed these proceedings being taken.

**Slaughter Houses.** These have been examined and found clean.

**Offensive Trades.** The business of Tallow melting, commenced at the old bone works Blackburn Road, was further considered by your Council on the 1st September, 1904 ; and the application for the consent of the Council to establish the business was adjourned for a further period of twelve months, and observations were to be taken during that time as to the manner in which the business was carried on.

I have not received any complaint as to the other offensive trades in the district.

**Black Smoke.** Observations have been taken during the year, and on the 28th April, 1904, it was reported to your Council that two complaints had been made to the owners of two mills, that a nuisance was caused by dense smoke from the chimneys of their mills being emitted more than eight minutes in the hour.

At one of the mills they have made larger fire space to consume the smoke, and put in additional steam jets to force the draught.

**Removal and Disposal of House Refuse.** This work is carried out by the employees of the Council. The ashes places are regularly emptied and the contents taken to a tip in the fields outside the built-up portion of the district.

**Disposal of Excrement.** Your Council are laying new sewers in various back streets and pressing the owners to alter the privies to the water closet system.

Considerable progress has been made in altering these privies and there are now 1884 water closets in use.

There are still remaining a number of objectionable privies recorded in the books that require alteration.

**Disinfection.** Disinfection of houses has been carefully done during the past year. Printed forms with the requisite precautions are supplied in all cases of infectious disease.

No case of Smallpox has been reported, but the Council's Hospital has been kept in readiness as cases of this disease occurred on various occasions in the adjoining districts.

Cases of Scarlet Fever have been isolated as far as possible at the homes of the patients, the Council not having an Isolation Hospital for fever other than Smallpox.

### **Sewerage, Drainage, and Sewage Disposal.**

There are good main sewers with intercepting sewers laid in the portions of the district built upon, with adequate ventilating manholes and lamphole ventilators. Also most of the streets and back streets have sanitary pipe sewers laid, but there are still some cases where the old stone drains are in existence, and these defective drains are receiving the attention of the Council.

A great many of the house drains have in recent years been overhauled in converting the privies to the water closet system, and in each case the works required to be done in relaying the drains have been under the supervision of the Council.

The sewage is dealt with at the Outfall Works in open septic tanks, and then passed through nine feet deep sprinkling filters, and the final treatment is upon the land filter areas.

**The Birth Rate** for the year is the lowest of which I have any record, being only 21.91 per 1000. The previous lowest record was 25.29 per 1000, which occurred in 1899, while the average for the last ten years is 28.87 per 1000. The births registered are 72 less than in the previous year. This is a notable fact, and the explanation is difficult; whether the number of still-born children is greater than in previous years, I am unable to say, but I think that a return of still-births, as well as live-births, would be useful in this respect.

**The Deaths** are 52 in excess of the previous year, numbering 274, and giving a death rate of 18.76 per 1000, as compared with 15.2 per 1000 in 1903. With one exception, this is the highest death rate recorded in the last ten years, and is attributable chiefly to the heavy mortality from Measles at the beginning of the year.



The fact of the birth rate being exceptionally low and the death rate exceptionally high, has produced a natural increase of only 46, which compares most unfavourably with the figures of previous years. During the last 25 years the previous lowest natural increase was in 1899 and 1900, both of which years shewed a natural increase of 105; and the average for the years of which I have any record, up to but not including 1904, is 176.5. This is almost four times as great as the past year's figures.

**Bronchitis** is responsible for 38 deaths. The greatest number being in persons over 65 years of age, and I am of the same opinion as my predecessor—the late Dr. Haworth, that a most important factor in the heavy death rate from this disease is the large volumes of smoke which are emitted from certain Factory chimneys in our Township.

**The Zymotic Death Rate** for the past year is 2.67 per 1000, and is the highest recorded during the last ten years. As stated above I attribute this chiefly to the heavy mortality from Measles in the early months of the year. When compared with the extremely low Zymotic death rate of .41 for the previous year, these figures are most regrettable.

**The Infantile Death Rate** with two exceptions is the highest that has been recorded during the last ten years, being 191 per 1000 births. This again is largely owing to the epidemic of Measles, while Pneumonia and Bronchitis are also responsible in great measure for the unduly high record.

I am, Gentlemen,

Yours faithfully,

ALFRED ERNEST TOWNLEY, M.B., CH.B.,

Medical Officer of Health.





Table II.—Vital Statistics in 1904 and previous Years.

Year	Population estimated to middle of each Year	Births registered	Deaths at all ages	Deaths under 1 year
	a	b	c	d
1894 .....	13500	348	185	42
1895 .....	14000	419	241	67
1896 .....	14200	448	216	61
1897 .....	15000	422	275	92
1898 .....	15500	465	222	73
1899 .....	15500	392	287	80
1900 .....	15500	411	306	73
1901 .....	14500	386	254	81
1902 .....	14500	398	192	55
1903 .....	14600	392	222	52
Averages for Years				
1894-1903	14680	408	240	67
1904 .....	14600	320	274	61

Table III.—Cases of Infectious Disease notified  
during the Year 1904.

Cases notified in whole District.

Notifiable Disease	At Ages — Years											
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards					
Small-pox .....	0	0	0	0	0	0	0	0	0	0	0	0
Cholera .....	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria.. .....	2	0	0	0	1	1	1	0	0	0	0	0
Membranous Croup.	1	0	1	0	0	0	0	0	0	0	0	0
Erysipelas .....	8	0	1	2	2	3	0	0	0	0	0	0
Scarlet Fever.....	16	0	8	8	0	0	0	0	0	0	0	0
Typhus Fever .....	0	0	0	0	0	0	0	0	0	0	0	0
Enteric Fever .....	14	0	1	5	5	3	0	0	0	0	0	0
Relapsing Fever ...	0	0	0	0	0	0	0	0	0	0	0	0
Continued Fever ...	0	0	0	0	0	0	0	0	0	0	0	0
Puerperal Fever ...	1	0	0	0	1	0	0	0	0	0	0	0
Plague .....	0	0	0	0	0	0	0	0	0	0	0	0
Totals.....	42	0	11	15	9	7	0					

Table IV.—Causes of and Ages at Death  
during Year 1904.

Deaths at the subjoined ages of "Residents" whether occurring  
in or beyond the District.

Causes of Death	All Ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 & upwards
Smallpox .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Measles .....	27 ...	9 ...	18 ...	0 ...	0 ...	0 ...	0
Scarlet Fever .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Whooping Cough .....	2 ...	1 ...	1 ...	0 ...	0 ...	0 ...	0
Diphtheria and Mem- branous Croup ...	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Fever {	Typhus .....	0 ...	0 ...	0 ...	0 ...	0 ...	0
	Enteric .....	7 ...	0 ...	0 ...	4 ...	1 ...	2 ...
	Other Continued	0 ...	0 ...	0 ...	0 ...	0 ...	0
Epidemic Influenza ...	2 ...	0 ...	0 ...	1 ...	0 ...	1 ...	0
Cholera .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Plague .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Diarrhœa .....	3 ...	3 ...	0 ...	0 ...	0 ...	0 ...	0
Enteritis .....	1 ...	1 ...	0 ...	0 ...	0 ...	0 ...	0
Puerperal Fever .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Erysipelas .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Other Septic diseases...	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Phthisis (Pulmonary Tuberculosis) .....	14 ...	1 ...	0 ...	1 ...	3 ...	8 ...	1
Other Tubercular diseases .....	13 ...	3 ...	9 ...	1 ...	0 ...	0 ...	0
Cancer (Malignant disease) .....	11 ...	0 ...	0 ...	0 ...	0 ...	11 ...	0
Bronchitis .....	38 ...	6 ...	10 ...	0 ...	0 ...	8 ...	14
Pneumonia .....	21 ...	7 ...	3 ...	1 ...	0 ...	9 ...	1
Pleurisy .....	0 ...	0 ...	0 ...	0 ...	0 ...	0 ...	0
Other diseases of Respiratory organs	3 ...	1 ...	0 ...	0 ...	0 ...	1 ...	1
Alcoholism (Cirrhosis of Liver) .....	2 ...	0 ...	0 ...	0 ...	0 ...	2 ...	0
Venereal diseases .....	1 ...	0 ...	0 ...	0 ...	0 ...	1 ...	0
Premature birth .....	7 ...	7 ...	0 ...	0 ...	0 ...	0 ...	0
Diseases and accidents of parturition .....	5 ...	0 ...	0 ...	0 ...	3 ...	2 ...	0
Heart diseases .....	13 ...	1 ...	0 ...	2 ...	0 ...	7 ...	3
Accidents .....	8 ...	1 ...	1 ...	4 ...	0 ...	1 ...	1
Suicides .....	4 ...	0 ...	0 ...	0 ...	0 ...	4 ...	0
All other causes .....	92 ...	20 ...	9 ...	2 ...	2 ...	31 ...	28
All causes .....	274	61	51	16	9	88	49

*REPORT for the year ended 31st  
December, 1904, by Robert N. Hunter,  
Surveyor and Sanitary Inspector.*

To the Chairman and Members of the Oswaldtwistle  
Urban District Council.

GENTLEMEN,

I have the honour to submit to you my twenty-first Annual Report as Surveyor and Sanitary Inspector, and in doing so it is an opportune time to bring into the yearly report a short summary of some of the sanitary improvements that have been made during the 21 years that I have been connected with the Council.



The District lies between latitude 53 degrees 42 minutes and 53 degrees 45 minutes north, and longitude 2 degrees 21 minutes to 2 degrees 26 minutes west.

Boundaries of the District.	Altitude in Feet above sea level along the boundaries.			
On the north by the districts of Church and Rishton,	from 400 to 550			
On the south by Haslingden and the Township of Yate and Pickup Bank	...	...	...	,, 850 to 1225
On the east by Accrington	...	...	...	,, 446 to 950
On the west by Blackburn	...	...	...	,, 500 to 850



## SANITATION.

Sanitary improvements have continued to be made during the past year, by constructing and laying down new sewers in the district, to take the place of defective drains and the old stone soughs ; also by altering the objectionable privy pits and open ash middens to the water carriage system, and building small dry ashes places.

Systematic inspections of the district have been made, and special attention has been given to these improvements, as they are among the most important of Sanitary requirements.

It is found that the residents appreciate these improvements, as they remove from the back yards the unhealthy and foul excreta tanks.

Complaints have been made from time to time as to the annoyance caused to the residents by the excreta tank carts being in the public streets. By effecting these improvements, the grounds for complaint are considerably reduced.

During the year, 104 of these privies have been altered to the water carriage system, and small covered ashes places built ; also 18 water closets have been fixed at new houses.

There are now altered to the water carriage system :

Houses .....	1884
Schools .....	8
Cotton Mills and Factories .....	12

Although progress has been made during the past year, there are still a number of these privies on the books to be altered, and the owners are being pressed to carry out the works required.

**Houses Unfit for Habitation.** Seven houses have been condemned as unfit for human habitation, viz. :

Nos. 13, 15, and 17 Cross Edge.

No. 7, Aspden Lane, and No. 3 Back Aspen Lane.

No. 22, Stanhill.

And the dwelling house formed out of a portion of the old Common Lodging house, Mill Hill Road.

**Scavenging.** The work of scavenging is performed by the Council. The ashes places are systematically emptied, and the streets have been regularly swept. 5059 loads of domestic refuse, and 952 loads of street sweepings have been removed during the past year.

**Disinfection.** In all cases where infectious disease has been reported, the infected house has been inspected, and printed forms with the requisite precaution for each disease, also disinfectants, supplied. After the recovery of the patient, the premises and bedding, &c., have been disinfected and cleansed.

During the past year rooms have been disinfected first with a spray of formalin upon the walls and floors, and then with formic aldehyde vapors. The bedding and clothing is dealt with in the disinfecting chamber, steam is applied and then dry heat.

**Day Schools.** On five occasions during the past year each of the eleven day schools have had all the inside walls and floors sprayed over with formic aldehyde in solution, and the caretakers of the schools requested to wash and cleanse the floors and wainscotings, using a disinfectant in the water for cleansing same; also the water closets and drains have been disinfected with a solution of Izol.

**Lodging House.** In my last report, I congratulated the Council and residents that the Common Lodging House had been abolished. During the past year there has been an ample supply of out-door labourers living in cottages in the district, to meet the demand for labouring work required to be done.

**Sewage Works.** For dealing with the sewage at the Outfall Works there are five tanks, three of these tanks are used as septic tanks, and two as storm tanks. The sewage is passed from the septic tanks upon nine feet deep revolving sprinkler filters, the final treatment is upon the land filter areas.

**Smallpox Hospital.** On account of the prevalence of smallpox in the adjoining districts, precautionary measures were taken for the prompt removal to the hospital of any case that might occur within the district. Fortunately no case occurred within the Council's district.

**Ventilation of Houses.** Although the practice is more general of keeping bedroom windows partly open during the day and night, and thus obtaining the benefit of breathing the fresh air during the night; it is to be regretted that



many people prefer to sleep in a stuffy room with the windows tightly shut and the chimney flue blocked up. It would be advisable for circulars to be issued to every householder, pointing out the benefits of having the dwellings well ventilated.

**Slaughter Houses.** These have been inspected, whitewashed, and found clean.

**Food, etc.** Food has been inspected but there has been no occasion to seize any.

**Sewering.** It is satisfactory that during recent years the Council has made rapid progress in laying down main sewers and intercepting sewers, for the efficient draining of the built-up portion of the district, also sewage purification works have been built upon the twelve acres of land at Aspen.

Previous to these sanitary works being carried out, the sewage was discharged at the most convenient places into the water courses, the Tinker Brook and White Ash Brook, which run through the district, were formerly highly polluted with sewage. The main sewer had its outlet into the brook near the Foxhill Bank Print Works; also sewage was discharged into the water courses from Fielding Lane and the Heys district; also from the neighbourhood of Brookside Street and Smithy Bridge, and the whole of the drainage from the village of Stanhill discharged into water courses. Also sewage was discharged into the Leeds and Liverpool Canal from the houses along Blackburn Road.

These pollutions were a nuisance and a danger to the health of the residents, and a contravention of the Rivers Pollution Act.

The whole of this sewage has been intercepted from polluting the water courses, and in consequence, the Council are now free from complaints that were formerly made by the riparian owners who have mills and works along the banks of the Tinker and White Ash Brooks.

During the year further progress has been made in sewerage and paving the private streets and back roads. The following streets have been completed during the year:

Wesley Street.

Hodgson Street.

Jubilee Street.

Kay Street from Harvey Street to Cross Street.

Back Road between Roe Greave Road and Trinity Street, from Union Road to Bismarck Street.

Back Road between Paddock Street and Jubilee Street.

Back Roads behind Rhyddings Street, on the northerly side thereof, from Watson Street to Hornby Street.

Back Road between Watson Street and Cecil Street.  
 Back Road between Catlow Hall Street and Cecil Street.  
 Back Road between Charles Street and Rhyddings Street.

Also the sewerage of the following Back Roads, viz :

Back Road behind Ash Street.  
 Back Road between Grove Street and Duke Street.  
 Back Road behind Blackburn Road on the southerly side thereof.  
 Back Road between Durban Street and Hornby Street.

Complaints were made at different times that the houses in Stanhill Lane, near Smithy Bridge, were flooded with surface water during times of heavy rainfall and storms; and to remedy these complaints, a new footpath has been made, and storm overflow gullies and drains laid down last July; and upon enquiry, no further flooding of the houses has occurred since the improvements were completed.

Strict attention continues to be paid to the existing connecting pipes to all the slop gullies and downspouts to the cottages in the district, to see that the dishstones to the gullies are bedded in cement, and the joints to the pipes cemented and made airtight, to prevent the sewer gasses from escaping from the drains into the foundations of the houses.

183 notices have been served for the abatement of various kinds of nuisances and the repairing and making good of defective house drains; also the owners have been requested in a number of cases to open and repair blocked drains without waiting for a formal notice. A total of 285 nuisances have been remedied.



## WATER SUPPLY.

The water works are the best asset in the possession of the Council, and moreover, a good water supply to a district is acknowledged to be a vital necessity to the health and prosperity of the inhabitants.

During the 21 years I have had the supervision of the water works, the income per annum has increased from £2019 in 1884 to £2920 at the present time, an increase of £900 per year, equal to nearly 50 per cent. Also it is pleasing to know that more than one-half of the debt of the works has been paid off.

The estimated population supplied with water from the Jackhouse and Cocker Cobbs Reservoirs in Oswaldtwistle district...	13500
In Church Council district .....	560
Belthorn Village in Oswaldtwistle .....	528
	<hr/>
Total.....	14588

The top water line of the Jackhouse Reservoir is 635 feet above sea level. The top water line of the Cobbs Reservoir is 752 feet above sea level.

### CAPACITY OF THE RESERVOIRS.

Jackhouse Reservoir, 36 feet 9 inches deep	...	68,000,000 gallons.
Cobbs Reservoir, 25 feet deep	... ..	10,000,000 ,,
		<hr/>
		78,000,000

The quantity of water supplied daily is about 435,000 gallons, distributed thus:—

Domestic purposes .....	245,000 gallons.
Trade ,, .....	60,400 ,,
Compensation water .....	129,600 ,,
	<hr/>
	435,000

The reservoirs will hold a supply, after allowing 10 million gallons for bottom water, equal to 156 days consumption.

The consumption of water for all purposes equals 31 gallons per head per day.

The consumption of water for domestic purposes only equals 17 gallons per head per day.

The pressure in the water mains at the points named is as follows :—

Union Road, opposite Roe Greave Road	9 in.	Main	60 lbs.	per sq. in.
Harvey Street.....	6	„	72	„ „
Blackburn Road—Mr. Metcalf's Works	4	„	90	„ „
Catlow Hall Street.....	3	„	58	„ „

The rainfall for 1904, also the average rainfall for the previous 23 years :—

Month	Rainfall 1904 Inches	Average Rainfall for the past 23 years Inches	Excess or Deficit Inches
January .....	5.27	4.27	+1.00
February .....	4.26	3.32	+0.94
March .....	2.73	3.76	—1.03
April .....	2.99	2.72	+0.27
May .....	1.34	2.79	—1.45
June .....	1.90	2.80	—0.90
July .....	1.77	3.82	—2.05
August .....	4.55	4.83	—0.28
September.....	1.35	4.17	—2.82
October .....	3.08	5.05	—1.97
November .....	3.48	4.95	—1.47
December .....	3.25	5.54	—2.29
Annual rainfall	35.97	48.02	

The deficit or shortage of rainfall during the year 1904 was 12.05 inches.

By an examination of the above table of rainfall, it will be seen that during the year there were eight dry months, and that the rainfall was considerably below the average rainfall for the preceding 23 years, the deficit for the year being 12.05 inches.

To show what this shortage of rainfall means to the water supply, and calculating that one inch of rainfall is equal to 22,623 gallons per acre, and taking the deficit of 12.05 inches, and the 240 acres of gathering ground makes a total of 65,425,716 gallons.

The drainage area to the Jackhouse and Cobbs Reservoirs varies in elevation from 630 feet to 1000 feet above the sea. Certain portions of the moorland from which the water would naturally flow to the reservoirs of the Council have been cut off and the water diverted by

intercepting open sluices and drains in the direction of Cocker Lumb and Cocker Brook, leaving the available area from which water is collected 240 acres. Certain portions of the drainage area or gathering ground have a sharp slope, from which the water flows quickly during times of storm and heavy rainfall; other portions of the area have a gentle slope and from which the water will not flow quickly, except at times of heavy rainfall; therefore it would not be safe to calculate that the loss was more than one-half of the 65 million gallons of water that could be impounded, which gives a shortage to the water supply during the past year, through the drought, of  $32\frac{1}{2}$  million gallons of water; which is equal to a loss of 74 days' supply.

Also by adverting to the shortage of the rainfall and water supply during Jubilee year 1887, the Council made an effort to impound more of the rainfall that fell upon the gathering ground by carrying out some surface draining upon the Lighthurst moors, within the limits of the drainage area; also at the same time I put down upon the moors a bore-hole 120 feet deep, the position of this bore-hole was carefully selected and put down beyond the coal measures strata so that the water would not be interfered with or lost by the working of the coal mines. This bore-hole delivers 40,000 gallons per day.

**Recommendations.** To further provide for a good water supply and improve the quality of the water, also with a view of providing against a scarcity of water during the droughts which appear to come in cycles, it is necessary that more draining with field pipes should be carried out upon the drainage area.

That an effort should be made to obtain another supply of spring water by putting down one or more bore-holes. A benefit would accrue in obtaining more spring water, as it would improve the quality of the water in the reservoirs by the spring water being mixed with the upland moor water. It would cause the water to be a more neutral water, and the water would be less liable to exert any considerable action upon the lead service pipes to the houses, and the water would be more suitable for domestic purposes. It is advisable to obtain analysis of the water supply, as it is some years since analysis of the water was made; we found then that the plumbo-solvent action of the water from the three reservoirs was best ascertained by testing samples of water from the service-pipes to the houses, the tap of which had been sealed for at least 12 hours, and care being taken to get the first water which flows from the tap for analysis.

That the Cobbs Reservoir be sludged out in the same way as the Jackhouse Reservoir was cleaned out during the year 1902.



During the year, several old corroded water mains have been taken out in the streets and new pipes laid, also a number of the water mains that had dead ends have been extended and connected to other water mains to cause the water to circulate and prevent the water from becoming stagnant.

Complaints were received about the stagnant condition of the water delivered to consumers at Brookside Street district, the water main at this point is in the form of an inverted syphon, and to remedy the complaint, a flush valve was fixed on the six inch main at the lowest point thereof, and the water pipes flushed out. No complaint has been received since this work was done.

On several occasions during the year the water has been turned off at the reservoirs from entering the water mains, and the whole of the old stagnant water has been emptied out of the water pipes, and the mains have been refilled with fresh water from the reservoirs. In addition to emptying the water mains, the dead ends have been systematically flushed out.

## **Belthorn Village Water Supply.**

There are 132 houses, and 2 cotton mills supplied with water. The population is 528.

The village at its highest point is 1020 feet above sea level ; at the lowest point the altitude is 850 feet above sea level.

The top water line of the reservoir is 1058 feet above sea level, being 38 feet above the highest point of the village. There are two filters with an area of 80 superficial yards. They are together capable of filtering 24,000 gallons of water per day, which is equal to twice the quantity of water delivered to the village ; so that when one of the filters is stopped for resting, the other will filter sufficient water for the daily supply. The total depth of filtering material is 4 feet.

Also there are two service water tanks, with valves fixed to work each tank separately. The two tanks have a holding capacity of 12,000 gallons, working them at 4 feet deep. This is equal to one day's supply.

The filtered water supplied to the village is of good quality.

The capacity of the reservoir is 800,000 gallons, which is equal to 80 days' supply ; but the supply of water to the reservoir is assisted by the springs on the gathering ground, so that during the long



drought of last year, the water in the reservoir was kept within 2 feet of the top water line, and the residents in the village had an adequate supply of water during the whole of the past year.

The supply of spring water is required, not only to keep up an ample supply of water to the village, but to improve the quality of the water for domestic purposes. The water from the upland moor to be used by itself is not suitable for domestic purposes, as some of this water has a distinctly acid reaction, and is therefore possessed of lead dissolving powers, and would act upon the lead service pipes to the houses.

During wet weather the reservoir is full of water, therefore most of the drainage water from the moors is turned away to waste, and not allowed to enter the reservoir.

Previous to these water works being constructed, the residents in the village had to rely for water from wells. It was found that one well that supplied the greater portion of the residents was polluted with drainage from leaky privy pits, and the water in another well was polluted with surface water from meadow land.

**Rainfall** from January 1st to December 31st, for the following years :

1881.....56.30 inches.	1893.....50.78 inches.
1882.....63.23   ,,	1894.....52.71   ,,
1883.....51.98   ,,	1895.....46.41   ,,
1884.....42.84   ,,	1896.....52.00   ,,
1885.....45.53   ,,	1897.....56.44   ,,
1886.....52.46   ,,	1898.....43.69   ,,
1887.....29.93   ,,	1899.....46.20   ,,
1888.....37.07   ,,	1900.....50.11   ,,
1889.....41.53   ,,	1901.....34.14   ,,
1890.....50.43   ,,	1902.....33.60   ,,
1891.....60.16   ,,	1903.....56.42   ,,
1892.....50.42   ,,	1904.....35.97   ,,

Average rainfall for the 23 years—1881 to 1903 inclusive, 48.02.

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**Offensive Trades.** Observations have been taken during the past year to ascertain whether the evaporating apparatus put down at White Ash Paper Mills had been successful in getting rid of the nuisance caused by the noxious vapours from the porion, and it has been found that the noxious vapours have no doubt been brought down to a minimum, and that no complaints have been received from the residents near the mills.

Observations are being taken at the Tallow Melting Works, Blackburn Road, previous to a license being given by the Council to carry on this business.

**Bakehouses.** The bakehouses have been inspected, and found to be satisfactory with the exception of one underground bakehouse, which has been ordered by your Council to be closed.

**Cowsheds and Dairies.** Sanitary improvements continue to be made at a number of the farms. During each inspection of the premises, where sanitary defects are found, the occupiers are made aware of the defects, and the owners are communicated with to remedy structural and sanitary defects.

There is a marked improvement in the cleaner condition of the farms; also following upon the action of the Council, a number of structural alterations to farm premises have been made, to improve the drainage, lighting, and ventilation of the cowsheds and farm buildings generally.

**New Streets and Building Bye-Laws.** New building bye-laws were adopted by the Council during the past year.

These bye-laws are for the most part a copy of the model bye-laws issued by the Local Government Board, and they give the Council further powers in the supervision over the laying out of new streets, and the erection of new houses.

During the course of erection, all new houses are inspected, and during the laying of all drains—the fall in the pipes and cementing of the joints is carefully examined, also the fitting up of water closets and baths.

A minimum of 150 superficial feet of yard space is given to each house, with a back road of 12 feet wide behind each block of houses is provided.

The subsoil of the built-upon portion of the district is mostly marl and clay, therefore damp-proof courses are put into new buildings to prevent the damp from striking up the walls. This portion of the district is situate at an altitude from 400 feet at the lowest portion, to 580 feet above sea level. Stanhill Village, Broadfield, and Belthorn Village are mostly upon the grit rock, which crops up to the surface in a number of places. These villages are upon the higher altitudes—from 600 feet to 1000 feet above sea level.

*The Factories and Workshops Act, 1901, and Part iii of the Public Health Acts Amendment Act, 1890.*

There are now 12 of the cotton mills and large factories that are provided with water closets and urinals, and 14 have the ordinary pail closets and privies. Those factories that are within the water supply and drainage area, are being pressed to alter the privies to the water carriage system.

4 of the high spinning mills and factories are provided with iron ladder fire escapes on the outside walls of the mills.

There are now 56 workshops upon the register, being 3 less than last year. These 3 workshops are now used as store warehouses.

37 of these workshops are provided with water closets, the remainder have the ordinary pail or privy closet. Where these workshops are within the drainage and water supply area, the owners are being pressed to abolish the privies and fit up water closets.

The workshops have been kept in a clean state, and the walls limewashed where required.

The air space upon measurement in each case has been found satisfactory. One workplace, after notice had been served upon the owner, made improvements in the ventilation.

I remain, Gentlemen,

Yours obediently,

ROBERT N. HUNTER,

Surveyor & Sanitary Inspector.

